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UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

September 16, 2004

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APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A
FILING DATE.

APPLICATION NUMBER: 60/492,917

FILING DATE: August 06, 2003

RELATED PCT APPLICATION NUMBER: PCT/US04/25503

Certified by



Jon W Dudas

Acting Under Secretary of Commerce
for Intellectual Property
and Acting Director of the U.S.
Patent and Trademark Office



16523 U.S. PTO

PTO/SB/16 (10-01)

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Express Mail Lab 1 No. EO 901 247 005 US

INVENTOR(S)

Given Name (first and middle [if any]) Todd Michael Donald Paul	Family Name or Surname Wirges Price	Residence (City and either State or Foreign Country) Ann Arbor, Michigan New Hudson, Michigan
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 Additional inventors are being named on the _____ separately numbered sheets attached hereto**TITLE OF THE INVENTION (500 characters max)**

REFLECTIVE EXTERNAL TRAVEL RESTRICTOR AND COMPRESSIVE SNUBBER

Direct all correspondence to:

CORRESPONDENCE ADDRESS

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ENCLOSED APPLICATION PARTS (check all that apply)

<input checked="" type="checkbox"/> Specification Number of Pages 2	<input type="checkbox"/> CD(s), Number
<input checked="" type="checkbox"/> Drawing(s) Number of Sheets 7	<input checked="" type="checkbox"/> Recordation Form Cover Sheet, Assignment Document, return postcard
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76	<input checked="" type="checkbox"/> Other (specify)

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT

<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.	FILING FEE AMOUNT (\$)
<input type="checkbox"/> A check or money order is enclosed to cover the filing fees	\$160.00
<input type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: _____	+ 40.00
<input checked="" type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.	\$200.00

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

 No. Yes, the name of the U.S. Government agency and the Government contract number are: _____

Respectfully submitted,

SIGNATURE

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TELEPHONE (734) 354-5445

Date August 6, 2003

REGISTRATION NO.
(if appropriate)
Docket Number:

29,597

03-0024

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

60/492917
08/06/03

REFLECTIVE EXTERNAL TRAVEL RESTRICTOR
AND COMPRESSIVE SNUBBER

Brief Description of the Invention

Methodology of utilizing a secondary structural element attached to the primary body of a vibration reduction mount that serves the purpose of travel restriction and heat shielding. Utilizing a highly reflective material (aluminized steel or dichromated steel) to increase the thermal reflective properties of the part.

Advantages of the Invention

This invention provides the advantage of utilizing a secondary structural element to limit the triaxial travel of a vibration reduction mount's input interface. Lateral and axial travel are limited through the forming size of the inside opening and the interface with the mount core. Verticle tensile travel is limited by the interface with the mount core. Compressive vertical travel is limited by a tertiary elastic element attached to the secondary structure element as it interfaces with the input bracket structure. This interface provides flexibility to tune allowable travel and rate progression in all six free travel directions while functioning as a heat/physical shield to the vulnerable mount vibration reduction material.

The invention has been further developed to improve the fabrication of this part in a manner to increase the thermal reflectivity of the component while under radiant heat exposure, by using a highly reflective material such as aluminized steel, or, through the post-application of a highly reflective coating such as dichromate protectant.

Further detail and advantages of the invention can be more clearly appreciated through the accompanying drawing figures.

Brief Description of the Drawings

The numbered items in the drawings figures are described as follows:

1. Spring sub-assembly
2. Nozzle plate assembly, decoupled
3. Bellow
4. Lower housing assembly
5. Frame side bracket
6. Hex flange nut – M12 X 1.5
7. Travel restrictor
8. Bumper
9. Engine Side Bracket
10. Heat Shield

Title: REFLECTIVE EXTERNAL TRAVEL RESTRICTOR AND COMPRESSIVE SNUBBER

Inventor(s): Wirges et al.

Atty. Ref. No.: 03-0024

Freudenberg-NOK General Partnership – Ronald W. Wangerow, Esq.

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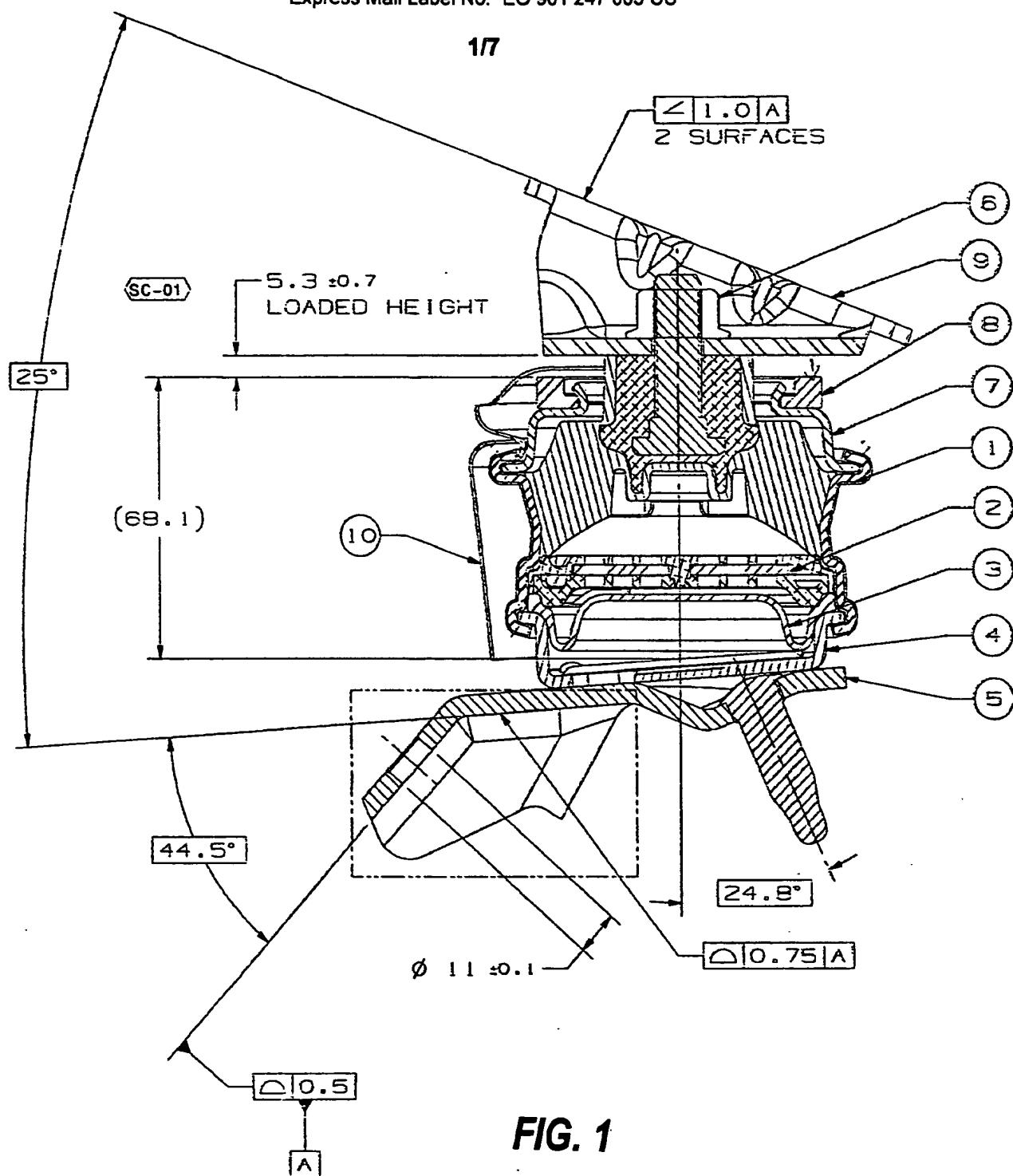


FIG. 1

Title: REFLECTIVE EXTERNAL TRAVEL RESTRICTOR AND COMPRESSIVE SNUBBER

Inventor(s): Wirges et al.

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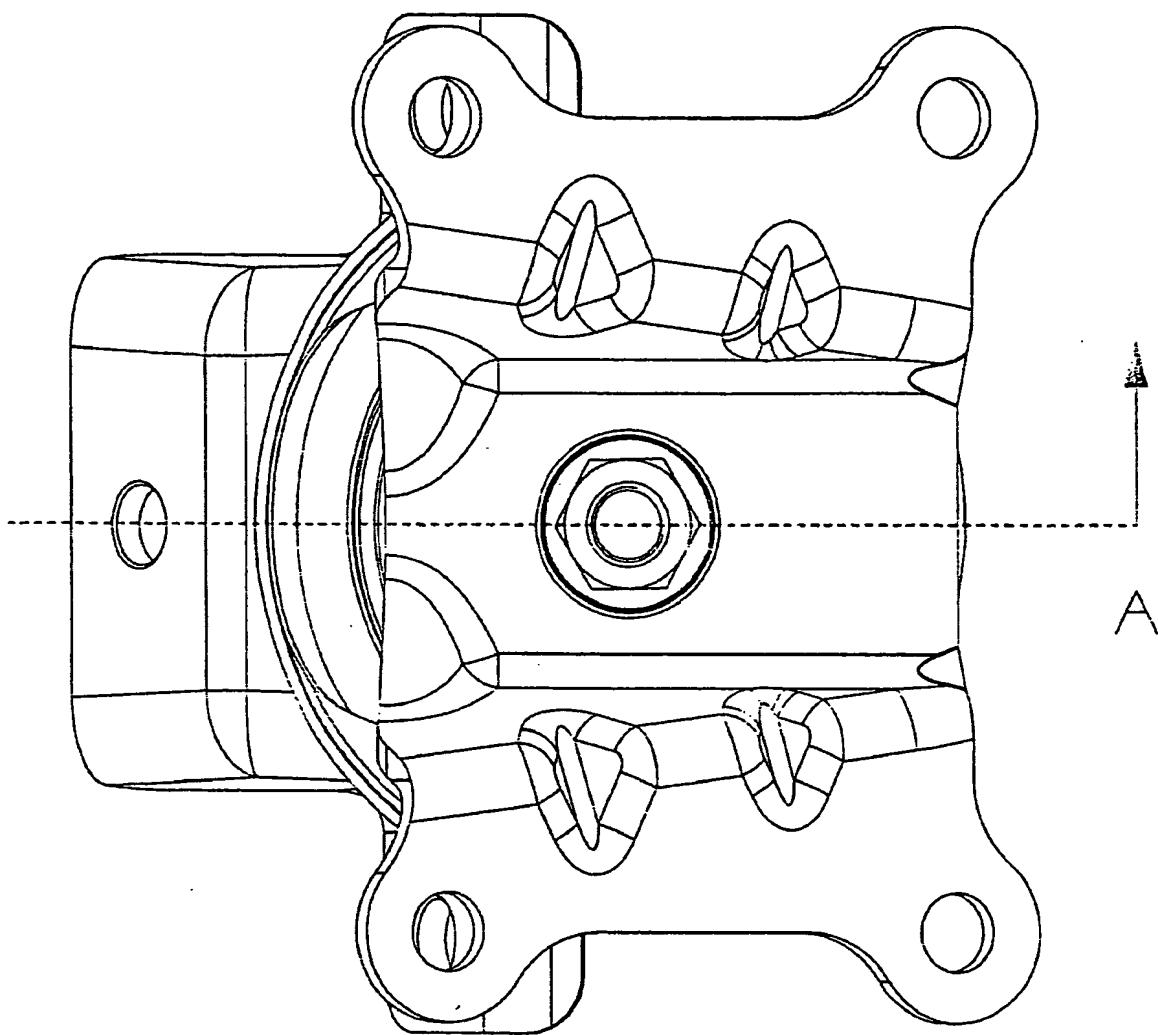


FIG. 2

Title: REFLECTIVE EXTERNAL TRAVEL RESTRICTOR AND COMPRESSIVE SNUBBER

Inventor(s): Wirges et al.

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Freudenberg-NOK General Partnership – Ronald W. Wangerow, Esq.

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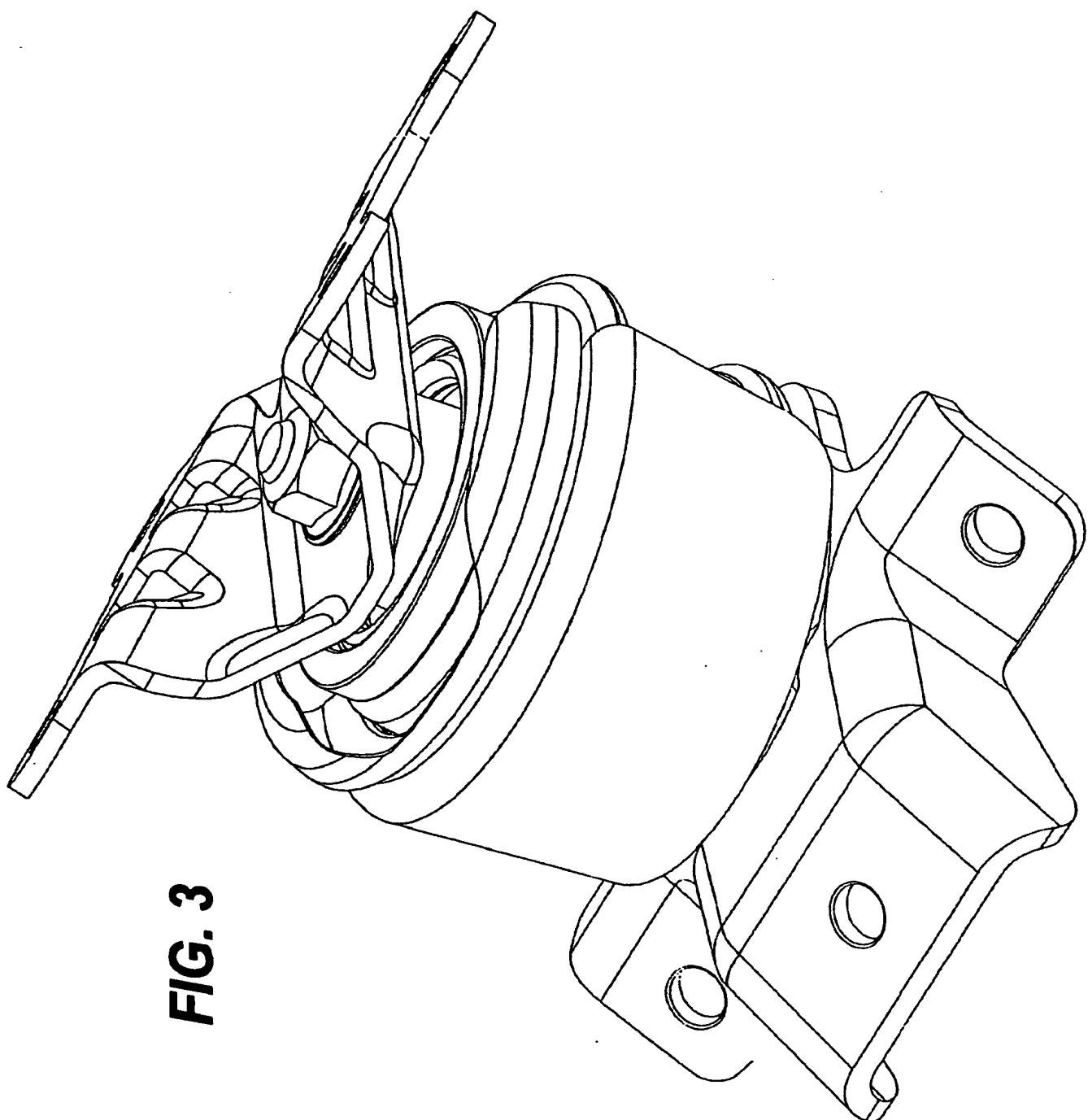


FIG. 3

Title: REFLECTIVE EXTERNAL TRAVEL RESTRICTOR AND COMPRESSIVE SNUBBER

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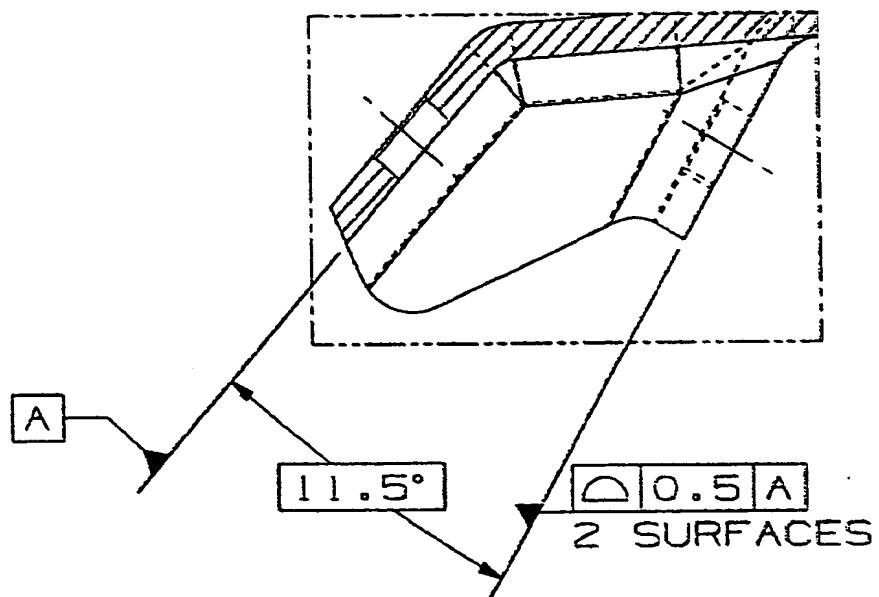


FIG. 4

Title: REFLECTIVE EXTERNAL TRAVEL RESTRICTOR AND COMPRESSIVE SNUBBER
Inventor(s): Wirges et al.
Atty. Ref. No.: 03-0024
Freudenberg-NOK General Partnership – Ronald W. Wangerow, Esq.
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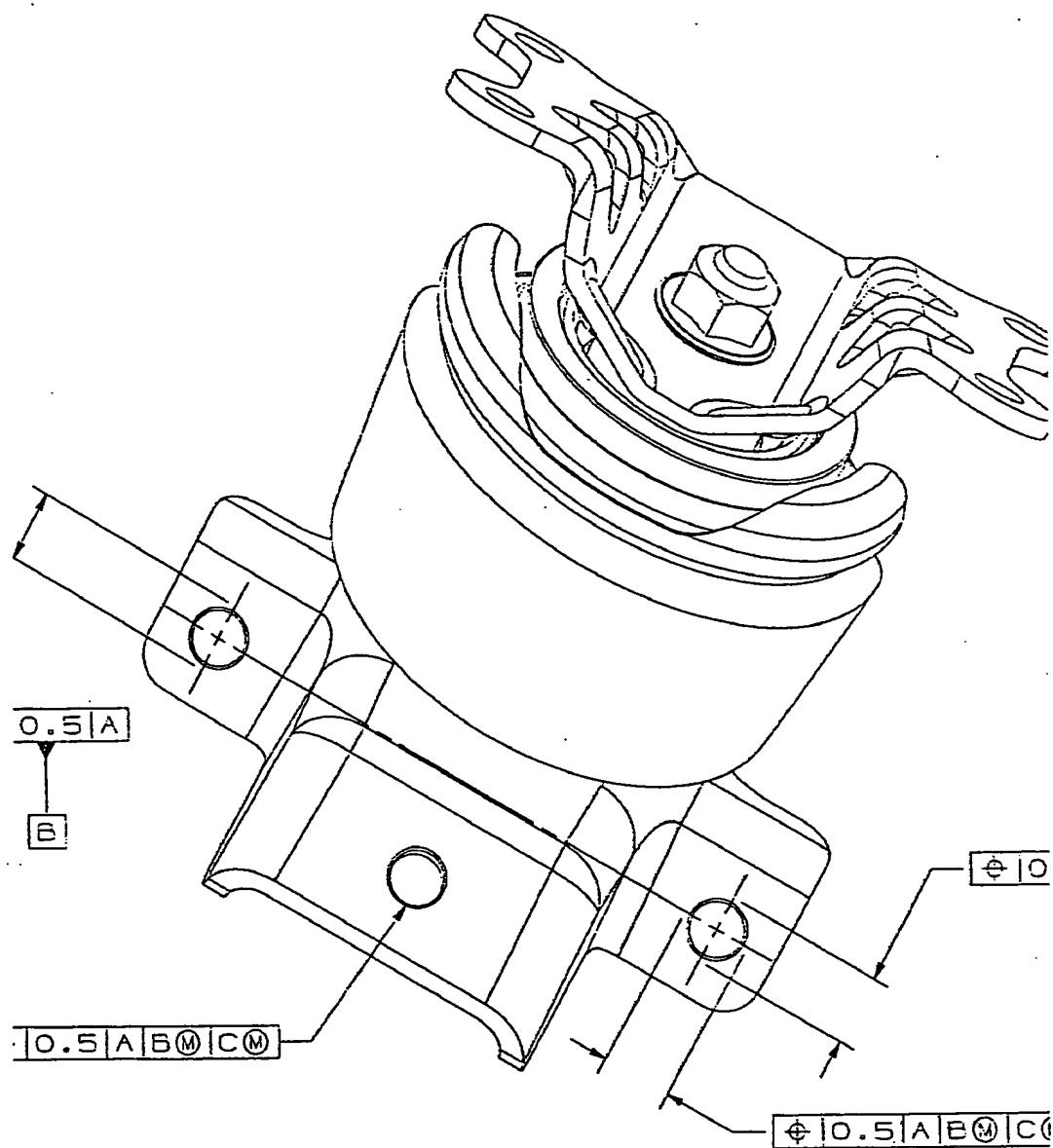


FIG. 5

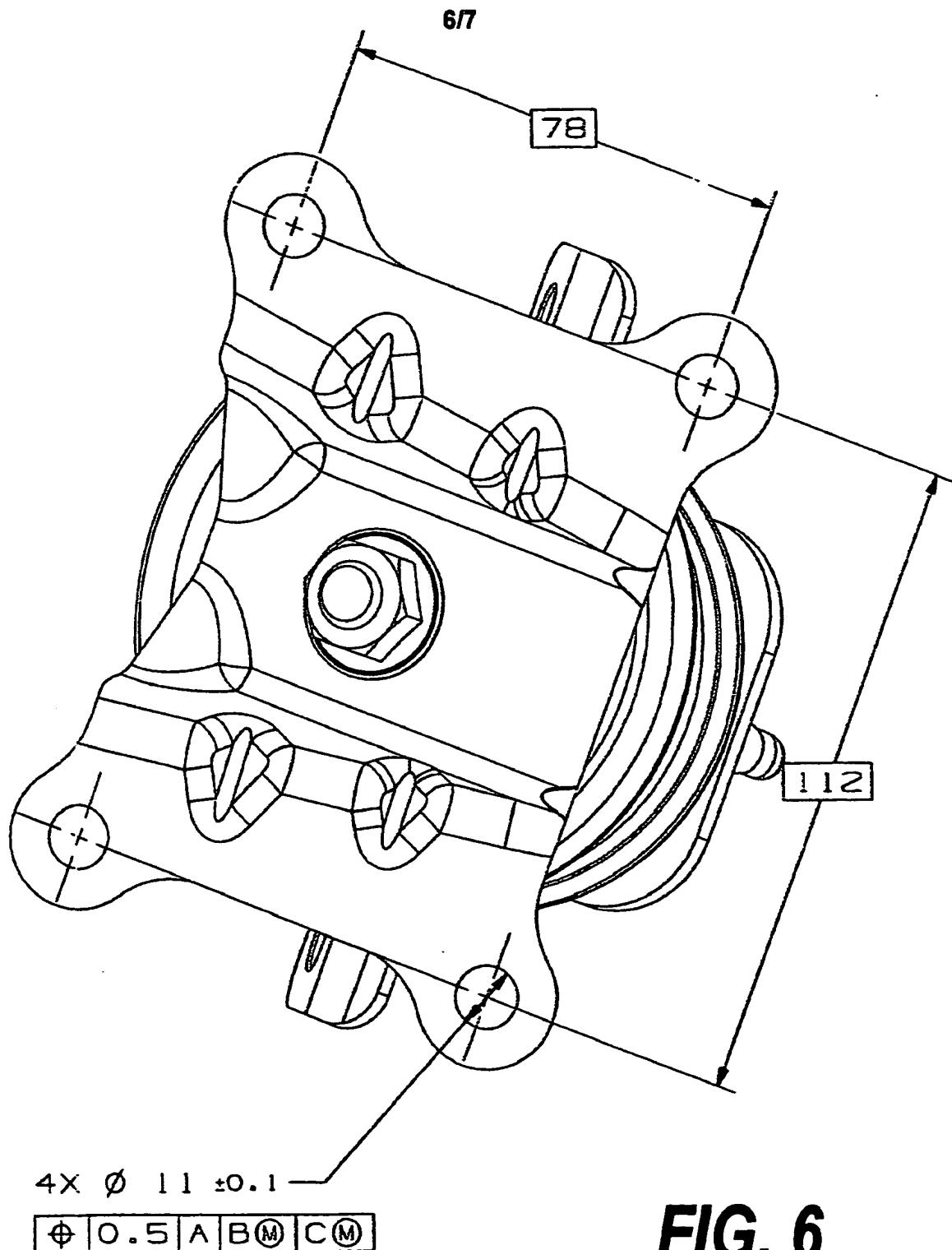
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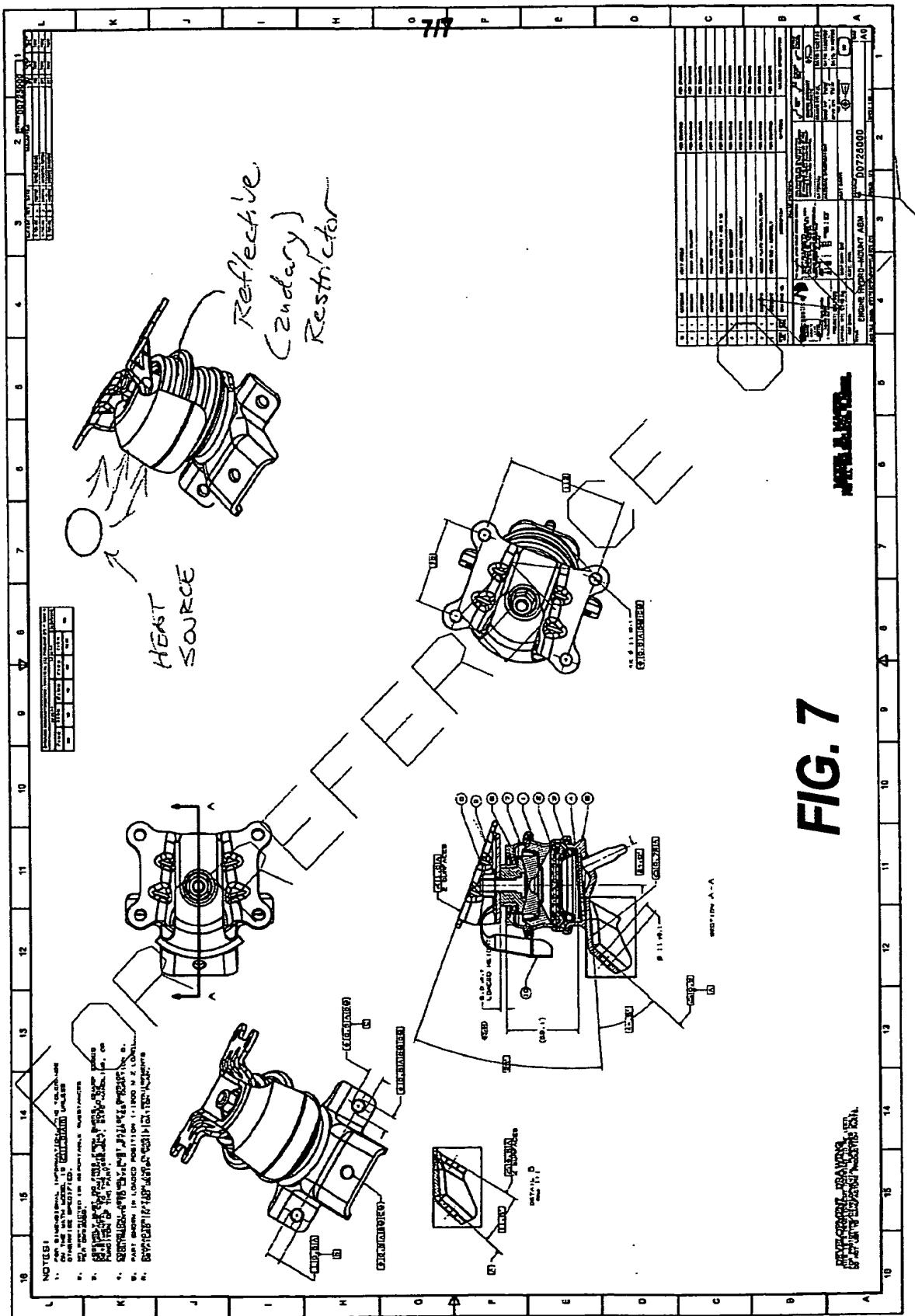


FIG. 7

Document made available under the Patent Cooperation Treaty (PCT)

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